

FILE 'HOME' ENTERED AT 12:50:06 ON 20 SEP 2004

=> file medline hcaplus biosis biotechds embase scisearch
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FULL ESTIMATED COST 0.21 0.21

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=> s carbonic anhydrase and dna
L1 1454 CARBONIC ANHYDRASE AND DNA

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=> dup rem l1  
PROCESSING IS APPROXIMATELY 68% COMPLETE FOR L1  
PROCESSING COMPLETED FOR L1  
L2          892 DUP REM L1 (562 DUPLICATES REMOVED)
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=> s 12 and 1990-1999/py  
      5 FILES SEARCHED...  
L3          381 L2 AND 1990-1999/PY
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=> focus l3
PROCESSING COMPLETED FOR L3
L4 381 FOCUS L3 1-

=> d 14 1-10 ibib ab

L4 ANSWER 1 OF 381 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:464409 HCAPLUS Full-text
DOCUMENT NUMBER: 119:64409
TITLE: Nucleotide sequence of a complementary DNA
encoding tobacco chloroplastic **carbonic**
anhydrase
AUTHOR(S): Majeau, Nathalie; Coleman, John R.
CORPORATE SOURCE: Dep. Bot., Univ. Toronto, Toronto, ON, M5S 3B2, Can.
SOURCE: Plant Physiology (1992), 100(2), 1077-8
CODEN: PLPHAY; ISSN: 0032-0889
DOCUMENT TYPE: Journal

LANGUAGE: English
 AB CA (carbonate dehydratase, EC 4.2.1.1) catalyzes the reversible hydration of CO₂ to HCO₃⁻ and is one of the more abundant soluble proteins in the leaves of higher plants. For the characterization of tobacco CA, four independent cDNA clones were isolated from a λgt22 expression library constructed using mRNA obtained from tobacco leaves. The library was screened using polyclonal antibodies raised against SDS-gel-purified pea chloroplast CA. Partial sequence anal. of each of the clones indicated that the coding regions of all four cDNAs were identical. The sequence of the longest cDNA, which contains 1223 bases and an open reading frame encoding a preprotein of 321 amino acids, is presented. If the same processing site is assumed for the removal of the transit peptide, as identified by sequence similarity with other higher plant CAs, the mol. mass of the mature protein would be 23,943 D. This is in agreement with the apparent mol. mass of the CA subunit as determined by western anal. of tobacco leaf soluble proteins. The amino acid sequence of the mature tobacco protein exhibits 76 and 78% identity with the pea and spinach sequence, resp. A comparison of the transit peptide sequences shows less conservation, although there are regions of similarity. The amino acid sequences of plant CA genes revealed no significant similarity with mammalian CA isoenzymes but have been shown to be similar to an Escherichia coli protein.

L4 ANSWER 2 OF 381 HCPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2001:721436 HCPLUS Full-text
 DOCUMENT NUMBER: 135:286905
 TITLE: The MN gene encoding a tumor-associated carbonic anhydrase and use of the gene and protein in diagnosis, treatment, prophylaxis and prognosis of tumor
 INVENTOR(S): Zavada, Jan; Pastorekova, Silvia; Pastorek, Jaromir
 PATENT ASSIGNEE(S): Institute of Virology, Slovakia; Slovak Academy of Sciences
 SOURCE: U.S., 92 pp., Cont.-in-part of U.S. 6,027,887
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 13
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6297041	B1	20011002	US 1998-178115	19981023
US 6051226	A	20000418	US 1993-177093	19931230
US 6774117	B1	20040810	US 1994-260190	19940615
US 5955075	A	19990921	US 1995-481658	19950607 <--
US 5981711	A	19991109	US 1995-486756	19950607 <--
US 5989838	A	19991123	US 1995-485862	19950607 <--
US 6069242	A	20000530	US 1995-487077	19950607
US 6093548	A	20000725	US 1995-485863	19950607
US 6204370	B1	20010320	US 1995-485049	19950607
US 6027887	A	20000222	US 1997-787739	19970124
WO 2000024913	A2	20000504	WO 1999-US24879	19991022
WO 2000024913	A3	20000914		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
 DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
 CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 AU 2000011323 A5 20000515 AU 2000-11323 19991022
 AU 758957 B2 20030403
 EP 1123387 A2 20010816 EP 1999-955151 19991022
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO
 JP 2002528085 T2 20020903 JP 2000-578465 19991022
 NO 2001001926 A 20010619 NO 2001-1926 20010419
 US 2003049828 A1 20030313 US 2001-967237 20010927
 PRIORITY APPLN. INFO.: CS 1992-964589 A2 19920311
 US 1993-177093 A2 19931230
 US 1994-260190 A2 19940615
 US 1995-477504 A2 19950607
 US 1995-481658 A2 19950607
 US 1995-485049 A2 19950607
 US 1995-485862 A2 19950607
 US 1995-485863 A2 19950607
 US 1995-486756 A2 19950607
 US 1995-487077 A2 19950607
 US 1997-787739 A2 19970124
 CS 1992-709 A 19920311
 CZ 1992-709 A 19920311
 US 1992-964589 A2 19921021
 US 1994-335469 A2 19941107
 US 1998-177776 A 19981023
 US 1998-178115 A 19981023
 WO 1999-US24879 W 19991022

AB Herein disclosed is a novel oncogene named MN or alternatively MN/CA IX. Abnormal expression of the MN gene is shown to signify oncogenesis, and diagnostic/prognostic methods for pre-neoplastic/neoplastic disease to detect or detect and quantitate such abnormal MN gene expression. Also disclosed are methods to treat pre-neoplastic/neoplastic disease involving the MN gene and protein, e.g., methods comprising the use of MN-specific antibodies, anti-idiotype antibodies thereto, and anti-anti-idiotype antibodies, and the use of MN antisense nucleic acids. Further disclosed are methods to identify and block MN binding site(s) and identify MN protein partners(s). Overexpression of the MN gene in 3T3 and CGL1 cells gave them a phenotype typical of neoplastic transformation.

REFERENCE COUNT: 85 THERE ARE 85 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 381 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1987:152550 HCAPLUS Full-text
 DOCUMENT NUMBER: 106:152550
 TITLE: Preparation and use of carbonic anhydrase inhibitors as tags in nucleic acid probes, enzyme immunoassays, and kits
 INVENTOR(S): Kaiser, Emil Thomas; Musso, Gary Fred; Ghosh, Soumitra Shankar; Orgel, Leslie Eleazer; Wahl, Geoffrey Myles
 PATENT ASSIGNEE(S): Siska Diagnostics, Inc., USA
 SOURCE: Eur. Pat. Appl., 53 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 210021	A2	19870128	EP 1986-305300	19860709
EP 210021	A3	19870902		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
US 4780405	A	19881025	US 1985-753176	19850709
CA 1294899	A1	19920128	CA 1986-510835	19860604 <--
JP 62014800	A2	19870123	JP 1986-161756	19860709
US 1985-753176 19850709				
US 1985-748499 19850625				
PRIORITY APPLN. INFO.:				

AB Aromatic sulfonamide inhibitors of **carbonic anhydrase** (I) are prepared and used as tags for nucleic acid hybridization probes. The tags are detected by a reporter group containing I which binds to the inhibitor. The bound reporter group is then detected by production of a fluorescent or colored product in a reaction catalyzed by an enzyme component of the reporter group. For EIAs, the inhibitor is attached to an anti-IgG or I itself is conjugated to the anti-IgG for antibody detection. Kits comprise nucleic acid probes, reporter group, and necessary reagents. A polynucleotide with a sequence complementary to a segment of the Epstein-Barr viral genome was modified to convert .apprx.10-50% of its cytosines into N4-aminocytosines. The modified polynucleotide was then mixed with a sulfonamide linker aldehyde [prepared from p-aminobenzenesulfonamide aminothiadiazole (PABSAT) and dioxolane propionyl chloride] to form the hybridization probe with PABSAT linked to the N4-amino N of the modified cytosines. The probe was used in nucleotide hybridization assays to detect Epstein-Barr viral DNA . Hybridized DNA was visualized with bovine erythrocyte I B and fluorescein diacetate which gave a fluorescent yellow-green color.

L4 ANSWER 4 OF 381 HCPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1991:672080 HCPLUS Full-text
 DOCUMENT NUMBER: 115:272080
 TITLE: Sequence analysis and regulation of expression of a gene coding for **carbonic anhydrase** in Chlamydomonas reinhardtii
 AUTHOR(S): Coleman, J. R.; Luinenburg, Irene; Majeau, Nathalie; Provart, Nicholas
 CORPORATE SOURCE: Dep. Bot., Univ. Toronto, Toronto, ON, M5S 3B2, Can.
 SOURCE: Canadian Journal of Botany (1991), 69(5), 1097-102
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Using immunol. and mol. biol. techniques, the authors studied the localization, gene organization, and regulation of expression of the extracellular **carbonic anhydrase** in the eukaryotic green alga C. reinhardtii. Electron microscopy data using immunogold labeling suggest an association of the protein with the inner face of the cell wall. The same polyclonal antibody was previously used to select an immunoreactive 2.5-kb genomic DNA fragment coding for a portion of the **carbonic anhydrase** monomer. The known **carbonic anhydrase** cDNA sequence and sequence anal. of the genomic DNA fragment was used to deduce the exon-intron organization of the genomic clone. The similarities between Chlamydomonas and higher plant **carbonic anhydrase** amino acid sequences and the effect of photoheterotrophic growth on the expression of the algal **carbonic anhydrase** are also examined

L4 ANSWER 5 OF 381 HCPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:76061 HCPLUS Full-text
 DOCUMENT NUMBER: 126:181975
 TITLE: Characterization of the rat **carbonic**

AUTHOR(S) : **anhydrase II gene structure: sequence analysis of the 5' flanking region and 3' UTR**
McGowan, Michelle H.; Neubauer, Judith A.; Stolle, Catherine A.

CORPORATE SOURCE: National Eye Institute, National Institutes of Health, Building 6, Room 232, 9000 Rockville Pike, Bethesda, MD, 20892, USA

SOURCE: Gene (1997), 186(2), 181-188
CODEN: GENED6; ISSN: 0378-1119

PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The rat carbonic anhydrase II gene was characterized and found to be approx. 15.5 kb in length and to contain 7 exons and 6 introns. All intron/exon junction and branch point sequences conform to consensus sequences, and the overall rat CA II genomic structure appears to be conserved upon comparison with mouse, human, and chicken CA II genes. The putative cis-acting elements within the analyzed 1014 bp 5' flanking region include: TATA box, 4 Sp1 binding sites, 2 AP2 sites and putative tissue-specific β -globin-like repeat elements. A CpG island of approx. 800 bp was identified that begins about 600 bp upstream of exon 1 and extends about 200 bp into intron 1. In the 3' UTR, two polyadenylation signals (ATAAAA) are present, the second of which is believed to be utilized. Northern blot anal. reveals that the 1.7 kb rat CA II mRNA is abundantly expressed in adult male brain and kidney, while negligible amounts are detected in heart and liver.

L4 ANSWER 6 OF 381 HCPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:301040 HCPLUS Full-text
DOCUMENT NUMBER: 124:334443

TITLE: Human MN/CA9 gene, a novel member of the carbonic anhydrase family: structure and exon to protein domain relationships

AUTHOR(S) : Opavsky, Rene; Pastorekova, Silvia; Zelnik, Vladimir; Gibadulinova, Adriana; Stanbridge, Eric J.; Zavada, Jan; Kettmann, Richard; Pastorek, Jaromir

CORPORATE SOURCE: Inst. of Virology, Slovak Academy of Sciences, Bratislava, Slovakia

SOURCE: Genomics (1996), 33(3), 480-487
CODEN: GNMCEP; ISSN: 0888-7543

PUBLISHER: Academic
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We have isolated, sequenced, and characterized a human MN/CA9 gene. This gene is a novel member of the carbonic anhydrase (CA) family, which codes for widely distributed catalysts of the reversible conversion of carbon dioxide to carbonic acid. So far, MN/Ca IX is the only tumor-associated CA isoenzyme. The entire genomic sequence of MN/CA9, including the 5'-flanking region, encompasses 10.9 kb. The coding sequence is divided into 11 exons, whose organization and relationships to predicted protein domains suggest that the gene arose by exon shuffling. Exon 1 encodes a signal peptide and a proteoglycan-related region. Exons 2-8 code for a CA domain with a highly conserved active site. The exon/intron pattern of the CA coding region is similar but not identical to other described animal kingdom α -CA genes. Exons 10 and 11 encode a transmembrane anchor and an intracytoplasmic tail, resp. We have also determined the transcription initiation and termination sites by RNase protection assay and analyzed the 3.5-kb region upstream of the MN/CA9 gene. Sequence of the proximate 5' end of the flanking region shows extensive homol. to the long terminal repeats of ZHERV-K endogenous retroviruses. The putative MN/CA9 promoter immediately preceding the transcription start site

does not possess a TATA box, but contains consensus sequences for the AP1, AP2, p53, and Inr transcription factors. This study will allow further investigations of the mol. events regulating expression of MN/CA IX as well as elucidation of its biol. function.

L4 ANSWER 7 OF 381 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:121295 HCAPLUS Full-text
DOCUMENT NUMBER: 128:266888
TITLE: Colon carbonic anhydrase 1:
transactivation of gene expression by the homeodomain protein Cdx2
AUTHOR(S): Drummond, F. -J.; Sowden, J.; Morrison, K.; Edwards, Y. H.
CORPORATE SOURCE: 4 Stephenson Way, Wolfson House, MRC Human Biochemical Genetics Unit, University College London, London, NW1 2HE, UK
SOURCE: FEBS Letters (1998), 423(2), 218-222
CODEN: FEBLAL; ISSN: 0014-5793
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The homeodomain protein, Cdx2, has been implicated in the transcriptional regulation of genes expressed in the small intestine. In vitro studies of the carbonic anhydrase 1 (CA1) colon promoter implied that Cdx2 may also play a role in the regulation of colon-specific gene expression. The current work follows up this proposal by examining the ability of Cdx2 to transactivate gene expression in cultured cells mediated by CA1 promoter sequences. The results show that Cdx2 exerts a pos. regulatory effect by binding to a motif 87 bp upstream of the CA1 TATA box; this motif appears to act as an enhancer since gene activation is independent of its orientation.
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 381 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:542466 HCAPLUS Full-text
DOCUMENT NUMBER: 127:215956
TITLE: Recombinant carbonic anhydrase
-linker-calcitonin fusion products and cleavage and reactions to prepare calcitonin and analogs
INVENTOR(S): Wagner, Fred W.; Stout, Jay S.; Henriksen, Dennis B.; Partridge, Bruce E.; Holmquist, Bart; Frank, Julie A.
PATENT ASSIGNEE(S): Bionebraska, Inc., USA
SOURCE: PCT Int. Appl., 77 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9729127	A1	19970814	WO 1997-US1652	19970204 <--
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML,			

MR, NE, SN, TD, TG

US 5962270	A	19991005	US 1996-595868	19960206 <--
CA 2245681	AA	19970814	CA 1997-2245681	19970204 <--
AU 9722545	A1	19970828	AU 1997-22545	19970204 <--
AU 710695	B2	19990930		
EP 892813	A1	19990127	EP 1997-905717	19970204 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1217724	A	19990526	CN 1997-193123	19970204 <--
JP 2000504574	T2	20000418	JP 1997-528594	19970204
US 6251635	B1	20010626	US 1998-139819	19980825
US 2001031856	A1	20011018	US 2001-750913	20010102
US 6410707	B1	20020625		
PRIORITY APPLN. INFO.:				
			US 1996-595868	A 19960206
			WO 1997-US1652	W 19970204
			US 1998-139819	A3 19980825

OTHER SOURCE(S) : MARPAT 127:215956

AB A process for the recombinant preparation of a calcitonin fusion protein and the use of the fragment in the preparation of calcitonin and related analogs is provided. The process includes recombinantly forming a fusion protein which includes the calcitonin fragment linked to a **carbonic anhydrase**. The recombinantly formed fusion protein is subsequently cleaved to produce a polypeptide which includes the calcitonin fragment. A method for producing a calcitonin carba analog which includes condensing a desaminononapeptide with the recombinantly formed calcitonin fragment is also provided.

L4 ANSWER 9 OF 381 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1992:402196 HCAPLUS Full-text
 DOCUMENT NUMBER: 117:2196
 TITLE: Chlamydomonas carbonic anhydrase
 cDNA cloning in Escherichia
 INVENTOR(S): Miyaji, Shigeto; Fukuzawa, Hideya; Tachiki, Hikari
 PATENT ASSIGNEE(S): Nippon Steel Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 04016191	A2	19920121	JP 1990-117635	19900509 <--
JP 1990-117635 19900509				

PRIORITY APPLN. INFO.:
 AB The **carbonic anhydrase (I)** cDNA of *C. reinhardtii* Dangerd is cloned and sequenced. I purified from *C. reinhardtii* Dangerd, IAM C-9 by chromatogs. was partially sequenced and DNA probes (68mer and 56mer oligonucleotides) designed. A cDNA library of the algae was constructed on λgt11 vector and screened with the DNA probes to obtain the I cDNA.

L4 ANSWER 10 OF 381 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1992:402195 HCAPLUS Full-text
 DOCUMENT NUMBER: 117:2195
 TITLE: Chlamydomonas carbonic anhydrase
 gene cloning in Escherichia coli
 INVENTOR(S): Miyaji, Shigeto; Fukuzawa, Hideya; Tachiki, Hikari
 PATENT ASSIGNEE(S): Nippon Steel Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04016192	A2	19920121	JP 1990-117636	19900509 <--
PRIORITY APPLN. INFO.:			JP 1990-117636	19900509

AB The carbonic anhydrase (I) gene of *C. reinhardtii* Dangerd is cloned and sequenced. I purified from *C. reinhardtii* Dangerd, IAM C-9 by chromatogs. was partially sequenced and DNA probes (68mer and 56mer oligonucleotides) designed. A genomic library of the algae was constructed on λEMBL-3 vector and screened with the DNA probes to get the I gene.

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FILE 'MEDLINE, HCAPLUS, BIOSIS, BIOTECHDS, EMBASE, SCISEARCH' ENTERED AT 12:50:54 ON 20 SEP 2004

L1 1454 S CARBONIC ANHYDRASE AND DNA
L2 892 DUP REM L1 (562 DUPLICATES REMOVED)
L3 381 S L2 AND 1990-1999/PY
L4 381 FOCUS L3 1-

=> log y

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L8: Entry 6 of 40

File: USPT

Aug 28, 2001

US-PAT-NO: 6280995
DOCUMENT-IDENTIFIER: US 6280995 B1

TITLE: Pectate lyases

DATE-ISSUED: August 28, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Andersen; Lene Nonboe	Aller.o slashed.d			DK
Schulein; Martin	Copenhagen			DK
Lange; Niels Erik Krebs	Raleigh	NC		

US-CL-CURRENT: 435/232; 435/183, 435/252.3, 435/252.31, 435/252.33, 435/320.1,
536/23.2, 536/23.7

CLAIMS:

What is claimed is:

1. An isolated polynucleotide molecule encoding a polypeptide having pectate lyase activity selected from the group consisting of:

a) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO: 1 from nucleotide 1 to nucleotide 1026;

b) polynucleotide molecules that encode a polypeptide having at least 95% identity to the amino acid sequence of SEQ ID NO: 2 from amino acid residue 1 to amino acid residue 341, wherein said identity is determined by the GAP program, using a GAP creation penalty of 3.0 and a GAP extension penalty of 0.1; and

c) polynucleotide molecules encoding a pectate lyase, wherein said polynucleotide molecules hybridize to the DNA sequence of SEQ ID NO: 1 under high stringency conditions, wherein said high stringency conditions comprise hybridization in 5.times.SSC at 45.degree. C. and washing in 2.times.SSC at 70.degree. C.

2. The isolated polynucleotide molecule according to claim 1, wherein the polynucleotide is DNA.

3. An expression vector comprising the following operably linked elements: a transcription promoter; a DNA segment encoding a polypeptide having pectate lyase activity as defined in claim 2; and a transcription terminator.

4. A cultured cell into which has been introduced an expression vector according to claim 3, wherein said cell expresses the polypeptide encoded by

the DNA segment.

5. A method of producing a polypeptide having pectate lyase activity, said method comprising:

(a) culturing a cell into which has been introduced an expression vector according to claim 3, under conditions suitable for expression of a polypeptide encoded by the DNA segment; and

(b) recovering the polypeptide.

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Search Results - Record(s) 1 through 10 of 40 returned.

1. Document ID: US 6548247 B1

Using default format because multiple data bases are involved.

L8: Entry 1 of 40

File: USPT

Apr 15, 2003

US-PAT-NO: 6548247

DOCUMENT-IDENTIFIER: US 6548247 B1

TITLE: Detection and mapping of point mutations using partial digestion

DATE-ISSUED: April 15, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Chirikjian; Jack G.	Potomac	MD		
Bazar; Leonard S.	North Potomac	MD		

US-CL-CURRENT: 435/6; 204/450, 435/91.1, 536/23.1, 536/24.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Specifications	Drawings	Claims	KOMC	Drawn D.
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2. Document ID: US 6503739 B1

L8: Entry 2 of 40

File: USPT

Jan 7, 2003

US-PAT-NO: 6503739

DOCUMENT-IDENTIFIER: US 6503739 B1

TITLE: Processes for producing S,S-2-hydroxypropylenediamine-N-N'-disuccinic acid

DATE-ISSUED: January 7, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kaneko; Makoto	Yokohama			JP

US-CL-CURRENT: 435/106; 435/128, 435/42, 562/565

Full	Title	Citation	Front	Review	Classification	Date	Reference	Specifications	Drawings	Claims	KOMC	Drawn D.
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3. Document ID: US 6472196 B1

L8: Entry 3 of 40

File: USPT

Oct 29, 2002

US-PAT-NO: 6472196

DOCUMENT-IDENTIFIER: US 6472196 B1

TITLE: Amino acid sequence of L-phenylalanine ammonia-lyase

DATE-ISSUED: October 29, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fukuhara; Nobuhiro	Yokohama			JP
Yoshino; Setsuo	Yokohama			JP
Yamamoto; Kaoru	Yokohama			JP
Se; Tomoyuki	Zushi			JP
Sone; Satori	Yokohama			JP
Nakajima; Yoshiyuki	Yokohama			JP
Suzuki; Maki	Yokohama			JP
Makiguchi; Nobuyoshi	Fujisawa			JP

US-CL-CURRENT: 435/232; 435/320.1

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMC	Drawn D.
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 4. Document ID: US 6441273 B1

L8: Entry 4 of 40

File: USPT

Aug 27, 2002

US-PAT-NO: 6441273

DOCUMENT-IDENTIFIER: US 6441273 B1

TITLE: Constitutive and inducible promoters from coffee plants

DATE-ISSUED: August 27, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Aldwinckle; Herbert S.	Geneva	NY		
Gaitan; Alvaro L.	Manizales, Caldas			CO

US-CL-CURRENT: 800/278; 435/232, 435/252.2, 435/252.3, 435/411, 435/412, 435/414,
435/415, 435/416, 435/417, 435/419, 435/427, 435/469, 435/470, 536/23.2, 536/23.6,
536/24.1, 800/293, 800/294, 800/298, 800/305, 800/306, 800/313, 800/314, 800/317.2,
800/320, 800/320.1, 800/320.2, 800/320.3, 800/322

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMC	Drawn D.
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5. Document ID: US 6387659 B1

L8: Entry 5 of 40

File: USPT

May 14, 2002

US-PAT-NO: 6387659

DOCUMENT-IDENTIFIER: US 6387659 B1

TITLE: Process for producing S-hydroxynitrile lyase

DATE-ISSUED: May 14, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Semba; Hisashi	Ibaraki			JP

US-CL-CURRENT: 435/69.1; 435/320.1, 536/23.1, 536/24.1[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Searchable Text](#) | [Advanced Search](#) | [Claims](#) | [KWMC](#) | [Drawn Dep](#)

 6. Document ID: US 6280995 B1

L8: Entry 6 of 40

File: USPT

Aug 28, 2001

US-PAT-NO: 6280995

DOCUMENT-IDENTIFIER: US 6280995 B1

TITLE: Pectate lyases

DATE-ISSUED: August 28, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Andersen; Lene Nonboe	Allerø slashed.d			DK
Schulein; Martin	Copenhagen			DK
Lange; Niels Erik Krebs	Raleigh	NC		

US-CL-CURRENT: 435/232; 435/183, 435/252.3, 435/252.31, 435/252.33, 435/320.1,
536/23.2, 536/23.7[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Searchable Text](#) | [Advanced Search](#) | [Claims](#) | [KWMC](#) | [Drawn Dep](#)

 7. Document ID: US 6238898 B1

L8: Entry 7 of 40

File: USPT

May 29, 2001

US-PAT-NO: 6238898

DOCUMENT-IDENTIFIER: US 6238898 B1

TITLE: Hydroperoxide lyases

DATE-ISSUED: May 29, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hausler; Alex	Schwerzenbach			CH
Lerch; Konrad	Pfaffhausen			CH
Muheim; Andreas	Zurich			CH
Silke; Natasha	Zurich			CH

US-CL-CURRENT: 435/155; 435/157, 435/232, 435/252.33, 435/254.11, 435/254.21,
536/23.2

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Detailed References](#) | [Detailed Citations](#) | [Claims](#) | [KUMC](#) | [Drawn D](#)

8. Document ID: US 6210937 B1

L8: Entry 8 of 40

File: USPT

Apr 3, 2001

US-PAT-NO: 6210937

DOCUMENT-IDENTIFIER: US 6210937 B1

TITLE: Development of genetically engineered bacteria for production of selected aromatic compounds

DATE-ISSUED: April 3, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ward; Thomas E.	Idaho Falls	ID		
Watkins; Carolyn S.	Idaho Falls	ID		
Bulmer; Deborah K.	Henderson	NV		
Johnson; Bruce F.	Scotia	NY		
Amaratunga; Mohan	Clifton Park	NY		

US-CL-CURRENT: 435/146; 435/232, 435/252.3, 435/320.1

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Detailed References](#) | [Detailed Citations](#) | [Claims](#) | [KUMC](#) | [Drawn D](#)

9. Document ID: US 6171798 B1

L8: Entry 9 of 40

File: USPT

Jan 9, 2001

US-PAT-NO: 6171798

DOCUMENT-IDENTIFIER: US 6171798 B1

** See image for Certificate of Correction **

TITLE: P53-regulated genes

DATE-ISSUED: January 9, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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Levine; Arnold L.	Princeton	NJ
Murphy; Maureen Elizabeth	Blue Bell	PA
Mack; David H.	Menlo Park	CA
Gish; Kurt Carlyle	Sunnyvale	CA
Tom; Edward Yat Wah	Sacramento	CA

US-CL-CURRENT: 435/6; 435/325, 435/366, 536/23.1, 536/24.3, 536/24.31

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Search](#) | [Advanced Search](#) | [Claims](#) | [KMC](#) | [Draw. Ds](#)

10. Document ID: US 6168940 B1

L8: Entry 10 of 40

File: USPT

Jan 2, 2001

US-PAT-NO: 6168940

DOCUMENT-IDENTIFIER: US 6168940 B1

**** See image for Certificate of Correction ****

TITLE: Protein having ethylenediamine-N,N'-disuccinic acid:ethylenediamine lyase activity and gene encoding the same

DATE-ISSUED: January 2, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mizunashi; Wataru	Kanagawa			JP

US-CL-CURRENT: 435/232; 435/109, 435/128, 435/252.3, 435/320.1, 435/325, 536/23.1,
536/23.2, 536/24.32

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Search](#) | [Advanced Search](#) | [Claims](#) | [KMC](#) | [Draw. Ds](#)

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11. Document ID: US 6143562 A

Using default format because multiple data bases are involved.

L8: Entry 11 of 40

File: USPT

Nov 7, 2000

US-PAT-NO: 6143562

DOCUMENT-IDENTIFIER: US 6143562 A

TITLE: Carbon-based process for selection of transgenic plant cells

DATE-ISSUED: November 7, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Trulson; Anna Julia	Davis	CA		
Green; Charles Edward	Davis	CA		
Braun, III; Carl Joseph	Woodland	CA		

US-CL-CURRENT: 435/420; 435/320.1, 435/419, 435/468, 536/23.6, 536/24.1, 800/295,
800/298

Full	Title	Citation	Front	Review	Classification	Date	Reference	Examiner	Attorney	Claims	KMC	Drawn D
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12. Document ID: US 6107093 A

L8: Entry 12 of 40

File: USPT

Aug 22, 2000

US-PAT-NO: 6107093

DOCUMENT-IDENTIFIER: US 6107093 A

TITLE: Recombinant cells that highly express chromosomally-integrated heterologous genes

DATE-ISSUED: August 22, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ingram; Lonnie O.	Gainesville	FL		
Ohta; Kazuyoshi	Gainesville	FL		
Wood; Brent E.	Gainesville	FL		

US-CL-CURRENT: 435/440; 435/252.3, 435/252.33, 536/23.7, 536/24.1

Full	Title	Citation	Front	Review	Classification	Date	Reference				Claims	KMC	Drawn D.
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 13. Document ID: US 6046042 A

L8: Entry 13 of 40

File: USPT

Apr 4, 2000

US-PAT-NO: 6046042

DOCUMENT-IDENTIFIER: US 6046042 A

TITLE: (S)-hydroxynitrilelyase from Hevea brasiliensis

DATE-ISSUED: April 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hasslacher; Meinhard	Graz			AT
Schall; Michael	Graz			AT
Schwab; Helmut	Graz			AT
Hayn; Elfriede Marianne	Graz			AT
Kohlwein; Sepp	Graz			AT
Griengl; Herfried	Graz			AT

US-CL-CURRENT: 435/128; 435/232, 435/252.3, 435/280, 435/320.1, 435/419, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference				Claims	KMC	Drawn D.
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 14. Document ID: US 6020135 A

L8: Entry 14 of 40

File: USPT

Feb 1, 2000

US-PAT-NO: 6020135

DOCUMENT-IDENTIFIER: US 6020135 A

TITLE: P53-regulated genes

DATE-ISSUED: February 1, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Levine; Arnold J.	Princeton	NJ		
Murphy; Maureen Elizabeth	Blue Bell	PA		
Mack; David H.	Menlo Park	CA		
Gish; Kurt Carlyle	Sunnyvale	CA		
Tom; Edward Yat Wah	Sacramento	CA		

US-CL-CURRENT: 435/6; 435/375, 536/23.1, 536/24.31

Full	Title	Citation	Front	Review	Classification	Date	Reference				Claims	KMC	Drawn D.
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15. Document ID: US 6004788 A

L8: Entry 15 of 40

File: USPT

Dec 21, 1999

US-PAT-NO: 6004788

DOCUMENT-IDENTIFIER: US 6004788 A

** See image for Certificate of Correction **

TITLE: Enzyme kits and libraries

DATE-ISSUED: December 21, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinitas	CA		

US-CL-CURRENT: 435/183; 435/189, 435/190, 435/191, 435/193, 435/194, 435/195,
435/212, 435/232, 435/4[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KMC](#) | [Drawn De](#) 16. Document ID: US 5965796 A

L8: Entry 16 of 40

File: USPT

Oct 12, 1999

US-PAT-NO: 5965796

DOCUMENT-IDENTIFIER: US 5965796 A

** See image for Certificate of Correction **

TITLE: Metal resistance sequences and transgenic plants

DATE-ISSUED: October 12, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Meagher; Richard Brian	Athens	GA		
Summers; Anne O.	Athens	GA		
Rugh; Clayton L.	Athens	GA		

US-CL-CURRENT: 800/298; 435/320.1, 435/419, 435/468, 435/69.1, 536/23.2, 536/23.7,
536/24.1, 800/278, 800/288, 800/295[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KMC](#) | [Drawn De](#) 17. Document ID: US 5958727 A

L8: Entry 17 of 40

File: USPT

Sep 28, 1999

US-PAT-NO: 5958727

DOCUMENT-IDENTIFIER: US 5958727 A
** See image for Certificate of Correction **

TITLE: Methods for modifying the production of a polypeptide

DATE-ISSUED: September 28, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Brody; Howard	Davis	CA		
Yaver; Deborah S.	Davis	CA		
Lamsa; Michael	Davis	CA		
Hansen; Kim	Vaerlose			DK

US-CL-CURRENT: 435/69.1; 435/252.3, 435/254.11, 435/254.3, 435/254.4, 435/254.6,
435/254.7, 435/254.8, 435/325, 435/440, 435/455, 435/471, 435/71.1, 435/71.2

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18. Document ID: US 5879915 A

L8: Entry 18 of 40

File: USPT

Mar 9, 1999

US-PAT-NO: 5879915

DOCUMENT-IDENTIFIER: US 5879915 A

TITLE: Method for the natural production of formic acid or formate

DATE-ISSUED: March 9, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Loubiere; Pascal	Toulouse			FR
Lindley; Nicolas	Parisot			FR
Vidor; Emmanuel	St. Sebastien sur Loire			FR
Taillade; Patrick	Mouvaux			FR

US-CL-CURRENT: 435/135; 435/134, 435/139, 435/252.1, 435/252.3, 562/609

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Searches](#) | [Assignments](#) | [Claims](#) | [KIMC](#) | [Drawn De](#)

19. Document ID: US 5871992 A

L8: Entry 19 of 40

File: USPT

Feb 16, 1999

US-PAT-NO: 5871992

DOCUMENT-IDENTIFIER: US 5871992 A

TITLE: Mammalian endonuclease III, and diagnostic and therapeutic uses thereof

DATE-ISSUED: February 16, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Teebor; George W.	New York	NY		
Hilbert; Timothy P.	New York	NY		

US-CL-CURRENT: 435/199

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Comments](#) | [Attachments](#) | [Claims](#) | [KMC](#) | [Drawn D](#)

20. Document ID: US 5858760 A

L8: Entry 20 of 40

File: USPT

Jan 12, 1999

US-PAT-NO: 5858760

DOCUMENT-IDENTIFIER: US 5858760 A

**** See image for Certificate of Correction ****

TITLE: Enzyme with pectin lyase activity

DATE-ISSUED: January 12, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE ZIP CODE	COUNTRY
Dalbo slashed.ge; Henrik	Virum		DK
Kofod; Lene Venke	Uggerl.o slashed.se		DK
Kauppinen; Markus Sakari	Copenhagen N		DK
Andersen; Lene Nonboe	Birker.o slashed.d		DK
Christgau; Stephan	Vedbaek		DK
Heldt-Hansen; Hans Peter	Virum		DK

US-CL-CURRENT: 435/232; 435/252.3, 435/252.33, 435/254.11, 435/254.3, 435/320.1,
536/23.2, 536/23.74

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Comments](#) | [Attachments](#) | [Claims](#) | [KMC](#) | [Drawn D](#)

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File: USPT

Apr 4, 2000

US-PAT-NO: 6046042

DOCUMENT-IDENTIFIER: US 6046042 A

TITLE: (S)-hydroxynitrilelyase from *Hevea brasiliensis*

DATE-ISSUED: April 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hasslacher; Meinhard	Graz			AT
Schall; Michael	Graz			AT
Schwab; Helmut	Graz			AT
Hayn; Elfriede Marianne	Graz			AT
Kohlwein; Sepp	Graz			AT
Griengl; Herfried	Graz			AT

US-CL-CURRENT: 435/128; 435/232, 435/252.3, 435/280, 435/320.1, 435/419, 536/23.2

CLAIMS:

We claim:

1. A purified (S)-hydroxy-nitrile-lyase comprising the amino acid sequence as set forth in SEQ ID NO. 12.
2. The purified (S)-hydroxy-nitrile-lyase as claimed in claim 1, encoded by the DNA sequence as set forth in SEQ ID NO. 4.
3. An isolated polypeptide having at least 80% homology with the amino acid sequence set forth in SEQ ID NO. 12 and possessing (S)-hydroxy-nitrile-lyase activity.
4. An isolated DNA having at least 85% identity with the DNA sequence as set forth in SEQ ID NO. 4 and encoding a polypeptide possessing (S)-hydroxy-nitrile-lyase activity.
5. A vector comprising a DNA sequence selected from the group consisting of: (1) a DNA sequence encoding the amino acid sequence as set forth in SEQ ID NO. 12, (2) the DNA sequence as set forth in SEQ ID NO. 4, (3) a DNA sequence having at least 85% identity with the DNA sequence as set forth in SEQ ID NO. 4 and encoding a protein with (S)-hydroxy-nitrile-lyase activity and (4) a DNA sequence encoding a polypeptide having at least 80% homology with the amino acid sequence set forth in SEQ ID NO. 12.
6. A host cell comprising the vector of claim 5.

7. The host cell as claimed in claim 6, wherein the host cell is a microorganism cell.

8. The host cell as claimed in claim 6, wherein the host cell is from *Saccharomyces cerevisiae* or *Pichia pastoris*.

9. A recombinant protein comprising the amino acid sequence as set forth in SEQ ID NO. 12.

10. A recombinant protein, which is obtained by heterologous expression of the vector of claim 5 in a host cell.

11. A method of producing a purified (S)-hydroxy-nitrile-lyase or a protein with (S)-hydroxy-nitrile-lyase activity comprising:

culturing the host cell of claim 6,

isolating the expressed (S)-hydroxy-nitrile-lyase or protein with (S)-hydroxy-nitrile-lyase activity from the cells, and

purifying the expressed (S)-hydroxy-nitrile-lyase or protein with (S)-hydroxy-nitrile-lyase activity from the cells.

12. A method of producing (S)-cyanohydrins comprising contacting a purified (S)-hydroxy-nitrile-lyase having the amino acid sequence as set forth in SEQ ID No: 12 with corresponding aldehydes or ketones with HCN or an HCN-donor to form (S)-cyanohydrins.

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WEST Search History

DATE: Monday, September 20, 2004

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<i>DB=USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ</i>			
<input type="checkbox"/>	L8	lyase with dna.clm.	40
<input type="checkbox"/>	L7	lyase with dna	278
<i>DB=USPT; PLUR=YES; OP=ADJ</i>			
<input type="checkbox"/>	L6	14 and lyase	0
<input type="checkbox"/>	L5	14 and type 13	0
<input type="checkbox"/>	L4	carbonic anhydrase with dna	54
<input type="checkbox"/>	L3	carbonic anhydrase with dna.clm.	2
<input type="checkbox"/>	L2	carbonic anhydrase and dna.clm.	344
<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ</i>			
<input type="checkbox"/>	L1	carbonic anhydrase and dna.clm.	713

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